

## Mini-course 3: Lecture 2

*Tuesday, October 15, 2019 3:30 PM (1 hour)*

In the first two lectures, Loeffler will recall Hida's theory of ordinary p-adic families of modular forms, and how it was used to construct p-adic Rankin–Selberg L-functions for  $GL_2 \times GL_2$  (by Hida and Panchishkin), and triple-product L-functions for  $GL_2 \times GL_2 \times GL_2$  (by Harris–Tilouine and Darmon–Rotger).

Then he will outline the key statements of Pilloni's higher Hida theory for the symplectic group  $GSp_4$ , which gives an analogous p-adic interpolation results for higher-degree coherent cohomology of Siegel threefolds, and describe how these techniques can be used to construct p-adic L-functions for  $GSp_4$ ,  $GSp_4 \times GL_2$ , and  $GSp_4 \times GL_2 \times GL_2$ , as in the recent preprint of Loeffler–Pilloni–Skinner–Zerbes.

**Presenter:** (UNIVERSITY OF WARWICK), David Loeffler